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June 13, 1997

VIA HAND DELIVERY

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington, D.C. 20554

Re: Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service (MM Docket No. 87-268)
Petition for Reconsideration

Dear Mr. Caton:

KFBB Corporation, L.L.C., through counsel, hereby files the enclosed Petition for Reconsideration of the Sixth Report and Order in the above-captioned proceeding. Please contact the undersigned if you have any questions.

Sincerely yours,

Kenneth C. Howard, Jr.

Enclosures

ORIGINAL

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

In the Matter of	)	
	)	
Advanced Television Systems	)	
and Their Impact Upon the	)	MM Docket No. 87-268
Existing Television Broadcast	)	
Service	)	

To: The Commission

PETITION FOR RECONSIDERATION

1. KFBB Corporation, L.L.C., licensee of Station KFBB-TV, Great Falls, Montana, hereby files this Petition for Reconsideration of the Commission's Sixth Report and Order (FCC 97-115, released April 21, 1997) in the above-captioned proceeding. Specifically, KFBB Corporation, L.L.C., requests that the Commission reconsider the allotment of Channel 39 to Great Falls as the DTV channel for Station KFBB-TV, and allot Channel 8 instead.

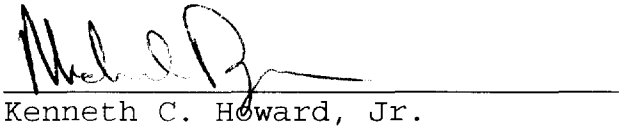
2. Station KFBB-TV currently broadcasts on NTSC Channel 5. Operation on a UHF DTV channel would likely cause the station to incur significant increased operating costs. The station would not incur these additional costs if it continues to operate on a VHF channel.

3. As the attached engineering statement demonstrates, Channel 8 is available for allotment to Great Falls as the DTV channel for Station KFBB-TV. While the use of that channel would

result in interference to a small area, it is requested that the Commission treat the interference area as de minimis.[1]

4. Therefore, KFBB Corporation, L.L.C., respectfully requests the Commission to reconsider the allotment of DTV Channel 39 to Great Falls and to substitute Channel 8 instead. Substitution of the channel would avoid the increased costs likely related to the operation of Station KFBB-TV on a UHF channel which, in turn, would serve the public interest by providing the station with additional funds that could be used to improve service to the public.

Respectfully submitted,



Kenneth C. Howard, Jr.
Michael Ruger

Counsel for KFBB Corporation, L.L.C.

Baker & Hostetler
1050 Connecticut Avenue, NW
Suite 1100
Washington, DC 20036-5304

Telephone (202) 861-1500

Filed: June 13, 1997

[1]Specifically, the use of Channel 8 would create interference to a 398 square kilometer area served by NTSC Channel 8, KPAX-TV, Missoula, Montana. The population in that area is estimated to consist of 18 persons. Engineering Statement at 2. This interference area could be completely eliminated through use of a directional antenna pattern. Engineering Statement at 3.

KFBB Corporation
Station KFBB-TV
Great Falls, Montana

Engineering Exhibit in Support of Petition for Reconsideration

June 12, 1997

HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
SAN FRANCISCO

Station KFBB-TV • Channel 5 • Great Falls, Montana

Statement of Robert D. Weller, Consulting Engineer

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by KFBB Corporation, licensee of Station KFBB-TV, Channel 5, Great Falls, Montana, to prepare an engineering exhibit in support of its petition for reconsideration of the Fifth and Sixth Report and Orders in Mass Media Bureau Docket No. 87-268, concerning digital television channel allocations.

The Commission Should Assign DTV Channel 8 to KFBB-TV

In the Sixth Report and Order (6th R&O), the Commission assigned DTV Channel 39 to KFBB-TV, NTSC Channel 5, Great Falls, Montana. The specified parameters of the DTV Channel 39 operation were 1,000 kilowatts at 180 meters height above average terrain (HAAT), using a directional antenna pattern derived from the omni-directional operation of the KFBB-TV NTSC facility, adjusted for F(50,90) service at UHF. The specified power level would place a considerable economic burden on KFBB-TV, since the cost of constructing and operating such a high-power facility is not justified in this small market (DMA No. 184). Use of a VHF television channel for DTV service, however, would not require the extreme power levels used at UHF.

An allocation study was conducted at the KFBB-TV site, to determine if channels exist that meet the spacing requirements specified in Section 73.623(d). Two VHF TV Channels, 7 and 8, were identified as each being fully spaced with respect to all existing NTSC and DTV assignments, except one. Channel 8 was selected, since use of this channel would results in less interference being caused to other authorized operations. The Channel 8 allocation conditions were as follows:

Call Sign	City	State	Channel	Distance	Required
KCTZ	Bozeman	MT	7	209.5 km	>146.4 km
KPAXTV	Missoula	MT	8	*214.2*	>273.6
CFCNTV8	Medicine Hat	AB	8	284.9	>273.6
KULRTV	Billings	MT	8	293.1	>273.6
CBUBT9	Fernie	BC	8	353.7	>273.6
KIFITV	Idaho Falls	ID	8	461.2	>273.6
Application	Havre	MT	9	158.4	>146.4
KUSM	Bozeman	MT	9	208.5	>146.4
KCFWTV	Kalispell	MT	9	237.0	>146.4

It has been assumed that the spacing requirements contained in the Commission's rules would apply equally to Canadian stations and allocations. The effective radiated power level permitted for fully-spaced operation on Channel 8 at a HAAT of 180 meters is 160 kW, and an interference analysis was conducted to determine the amount of new interference created to other authorized

facilities by such an operation. Section 73.623(c)(2) of the revised FCC Rules references Appendix B of the 6th R&O, which provides the procedure used to evaluate proposed modifications to allotted DTV facilities, along with OET Bulletin No. 69 which, as of this date, has not been released by the FCC. Section 73.623 requires demonstration of principal community coverage, namely that the community lies entirely within the applicable F(50,90) contour, which is 36 dBu for DTV Channel 8. Inasmuch as the KFBB site lies very close to Great Falls, demonstrating principal community coverage is trivial, as demonstrated by the attached Figure 1.

Appendix B of the 6th R&O provides a five-page summary of the procedures used to develop the allotment table, but by no means provides adequate guidance for conducting interference evaluations involving the newly-allotted DTV channels, with regard to potential interference to/from existing authorized NTSC facilities, or to/from allotted DTV facilities. Interference is considered to occur for the co-channel DTV-to-NTSC case, when the calculated ratio of the F(50,50) coverage of the NTSC station (the desired station) to the F(50,10) coverage of the DTV station (the undesired station) falls below 34 dB. Inasmuch as the Commission has not specifically defined what service is being protected (*i.e.*, population, geographic area, or both), it is postulated that the public interest would best be served in this case by considering *only* interference to potential viewers, as determined by the locations of the Census Blocks of the latest census, whose centroids lie within the interference area.

The Commission, in developing the DTV allotment table, defined "cells" having an approximately uniform area of 4 square kilometers. A copy of the computer software used to generate the DTV allotment table was obtained from OET and modified to calculate interference *to* other stations. Specifically, using the Longley-Rice algorithm, interference to the NTSC operation of KPAX-TV, Channel 8, Missoula, is calculated to occur to a total of 18 persons (1990 US Census). The locations of those cells lying within the Grade B contour of KPAX-TV, and calculated to experience interference from the hypothetical DTV operation of KFBB-TV (Channel 8, 160 kW, omni-directional), are shown graphically in Figure 2.

The Commission Should Consider Interference *de minimus* and Permit Omni-directional Operation

Great Falls and Missoula, Montana, the principal communities served by KFBB-TV and KPAX-TV, respectively, are separated by the Continental Divide, so television signals broadcast from one community do not propagate to the other. Because of this terrain obstacle, the only areas where interference can generally occur are the high mountain peaks in common view of both communities. In the case of the proposed DTV operation on Channel 8, Longley-Rice analysis

shows that only 18 potential viewers of KPAX-TV are calculated to experience interference, out of a total interference-free service population of 127,000 persons.* This amounts to 0.014% of the total KPAX-TV viewership, and might reasonably be considered *de minimus*. The 18 persons calculated to experience interference from the omni-directional operation of KFBB-TV's DTV facility lie in a single cell about 25 kilometers southeast of Missoula, as shown in Figure 2. A land area of 361 square kilometers, out of a total interference-free service area of 32,745 square kilometers, is calculated to experience interference from the proposed DTV operation of KFBB-TV on Channel 8. This amounts to 1.1% of the total KPAX-TV service area and might also be reasonably be considered *de minimus*; furthermore, it is again noted that protection of the remote mountain peaks of National Forests (making up a majority of the calculated interference cells) is not in the public interest.

Since the calculated interference area and population are both small, it is proposed that KFBB-TV be assigned Channel 8 at an omni-directional ERP of 160 kW for its DTV operation, in lieu of Channel 39.

If *de minimus* Interference is Not Permitted, Directional Antenna Operation Should Be Permitted

If the Commission determines that creating calculated interference to 18 persons, representing 0.014% of the KPAX-TV service area, is not in the public interest, it is respectfully requested that Channel 8 DTV operation be permitted using a directional antenna (DA), which does not cause *any* calculated interference to persons within the KPAX-TV protected viewing area. The antenna azimuth pattern of Figure 3 provides the required protection, limiting the ERP of the proposed Channel 8 DTV facility to 30.5 kW in the direction of the cell calculated to receive interference. It is proposed that, if a directional antenna is deemed necessary to ensure that no population interference is created by the proposed Channel 8 DTV operation, the relative field pattern of Figure 3 define the "pattern envelope" not to be exceeded by that operation.

If directional antenna operation is deemed necessary, an application, possibly requesting use of a directional antenna having a peak ERP of 160 kW or less, and not exceeding the radiation limits specified by the relative field envelope shown in Figure 3, will be filed subsequent to allocation by the Commission of the requested DTV Channel 8 to KFBB-TV.

* Population Coverage taken from Appendix B of the 6th R&O.

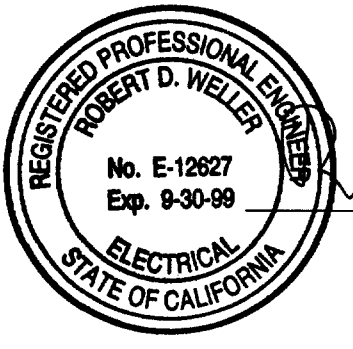
Summary

TV Station KFBB-TV, NTSC Channel 5, Great Falls, Montana, requests that its DTV allotment be changed from Channel 39 to Channel 8. Since the requested channel is spaced fully with respect to all existing and proposed NTSC and DTV assignments, except one, and that only *de minimus* interference is caused to persons within that station's protected contour, it is requested that full-power, omni-directional DTV operation be permitted on this channel. Alternatively, if the creation of *de minimus* interference is not permissible, it is requested that directional antenna operation within a specified azimuth pattern envelope be permitted.

List of Figures

In carrying out these engineering studies, the following attached figures were prepared under my direct supervision:

1. Principal community coverage of proposed KFBB-TV DTV operation
2. Map showing location of cells having calculated interference to KPAX-TV
3. Relative field antenna pattern envelope required to protect all KPAX-TV viewers from interference.



Robert D. Weller, P.E.

June 12, 1997

Affidavit

State of California
County of Sonoma | ss:

Robert D. Weller, being first duly sworn upon oath, deposes and says:

1. That he is a qualified Registered Professional Engineer, holds California Registration No. E-12627 which expires September 30, 1999, and is employed by the firm of Hammett & Edison, Inc., Consulting Engineers, with offices located near the city of San Francisco, California,

2. That he graduated from The University of California, Berkeley, in 1984, with a Bachelor of Science degree in Electrical Engineering and Computer Science, was an electronics engineer with the Federal Communications Commission from 1984 to 1993, with specialization in the areas of FM and television broadcast stations, cable television systems and satellite systems, and has been associated with the firm of Hammett & Edison, Inc., since June 1993,

3. That the firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by KFBB Corporation, licensee of Station KFBB-TV, Channel 5, Great Falls, Montana, to prepare an engineering exhibit in support of its petition for reconsideration of the Fifth and Sixth Report and Orders in Mass Media Bureau Docket No. 87-268, concerning digital television channel allocations,

4. That he has carried out such engineering work and that the results thereof are attached hereto and form a part of this affidavit, and

5. That the foregoing statement and the report regarding the aforementioned engineering work are true and correct of his own knowledge except such statements made therein on information and belief and, as to such statements, he believes them to be true.

Robert D. Weller, P.E.

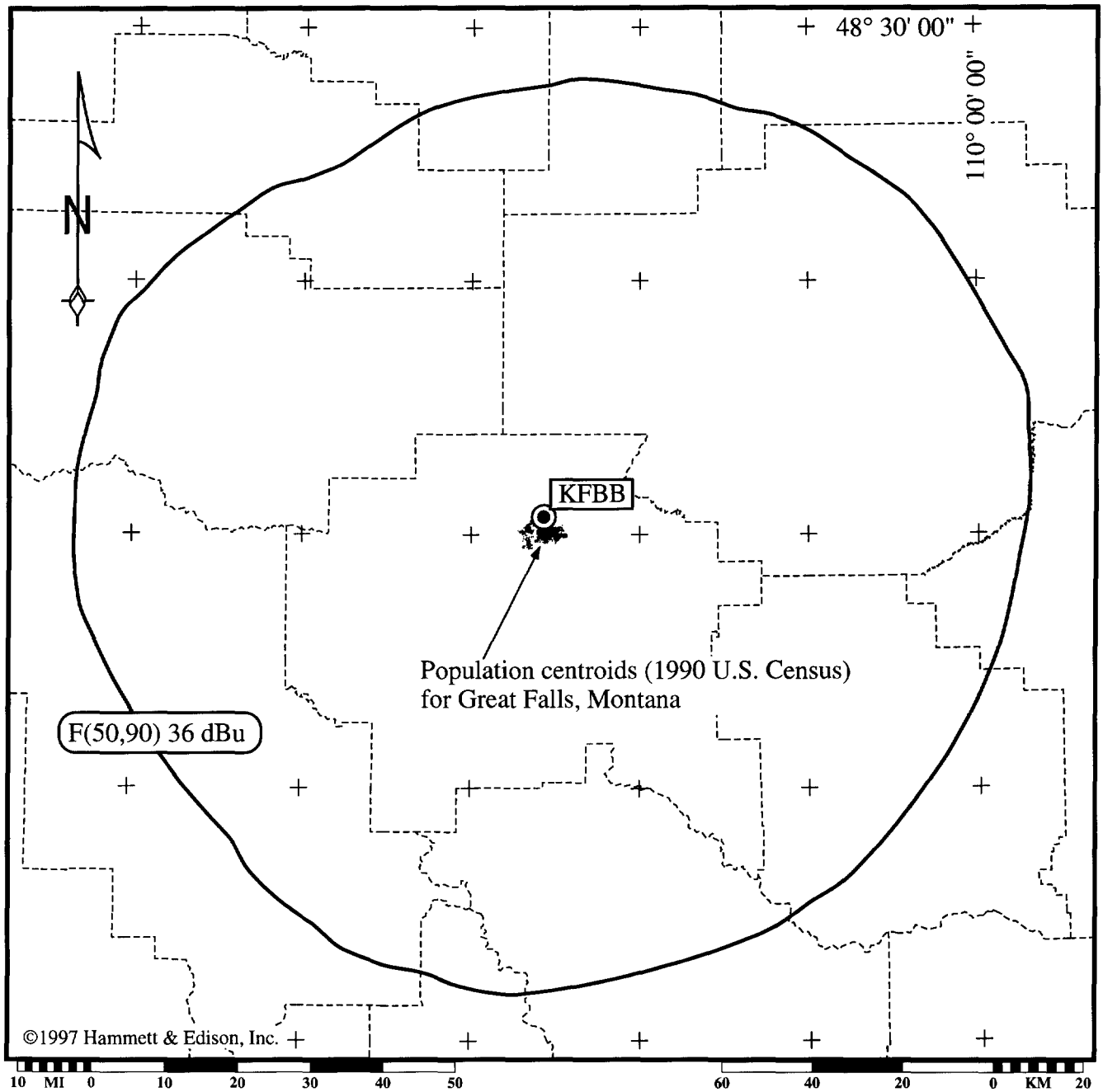
Subscribed and sworn to before me this 12th day of June, 1997

CRS 2 JERI L. THOMSEN COMM. #1028103 NOTARY PUBLIC-CALIFORNIA SAN MATEO COUNTY My Comm. Expires May 29, 1998 CRS 2

Station KFBB-TV • Channel 5 • Great Falls, Montana

Map Showing Extent of Prinicipal Community Contour for Proposed DTV Operation of KFBB-TV

(Channel 8, 160 kW, Omni-directional)

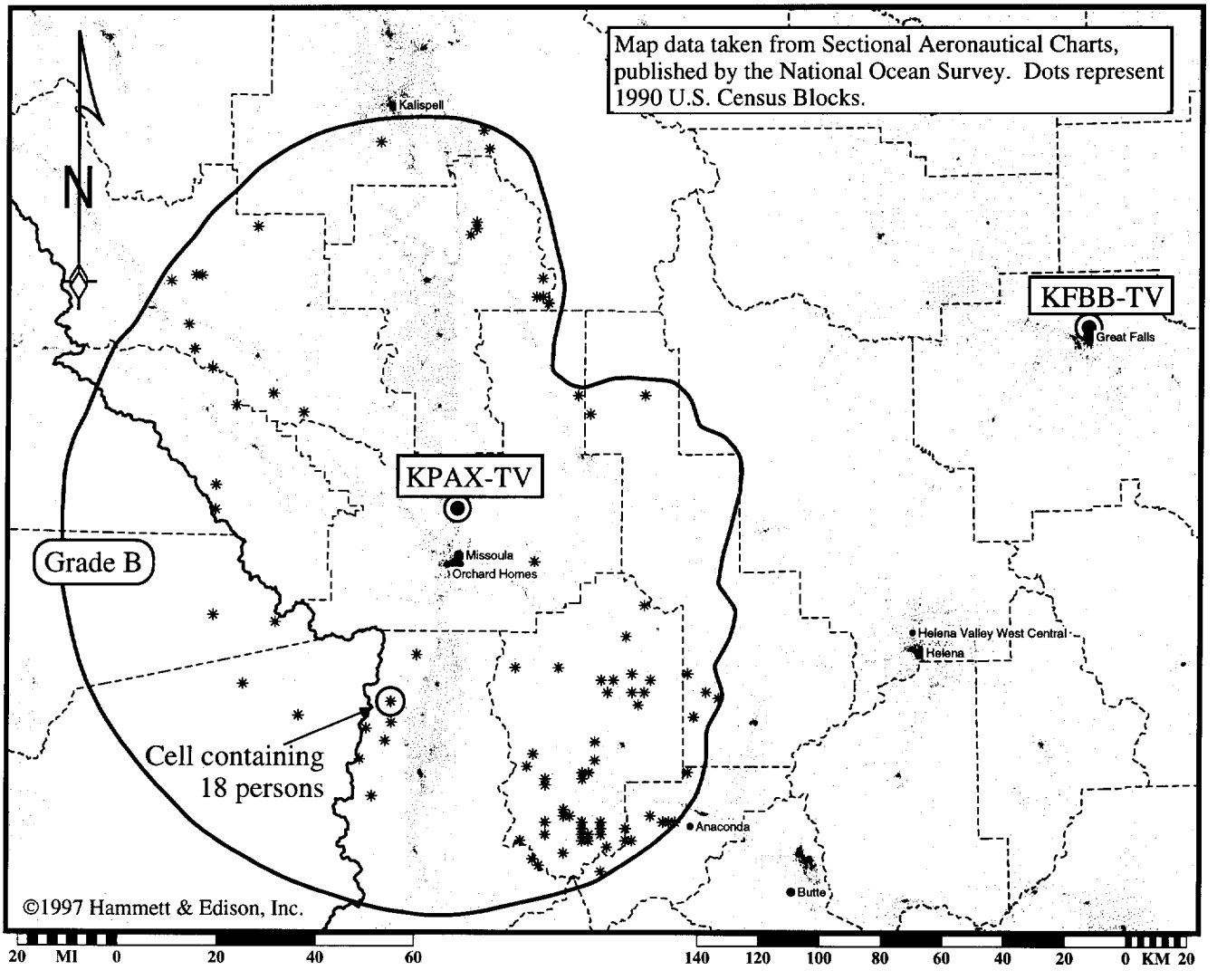


Geographic coordinate marks shown at 30-minute increments. Azimuthal equidistant map projection. Dots represent 1990 U.S. Census Blocks.

Station KFBB-TV • Channel 5 • Great Falls, Montana

Map Showing Locations of Cells Calculated to Receive Interference from Proposed DTV Operation of KFBB-TV

(Channel 8, 160 kW, Omni-directional)



* Indicates cell with Longley-Rice calculated interference.

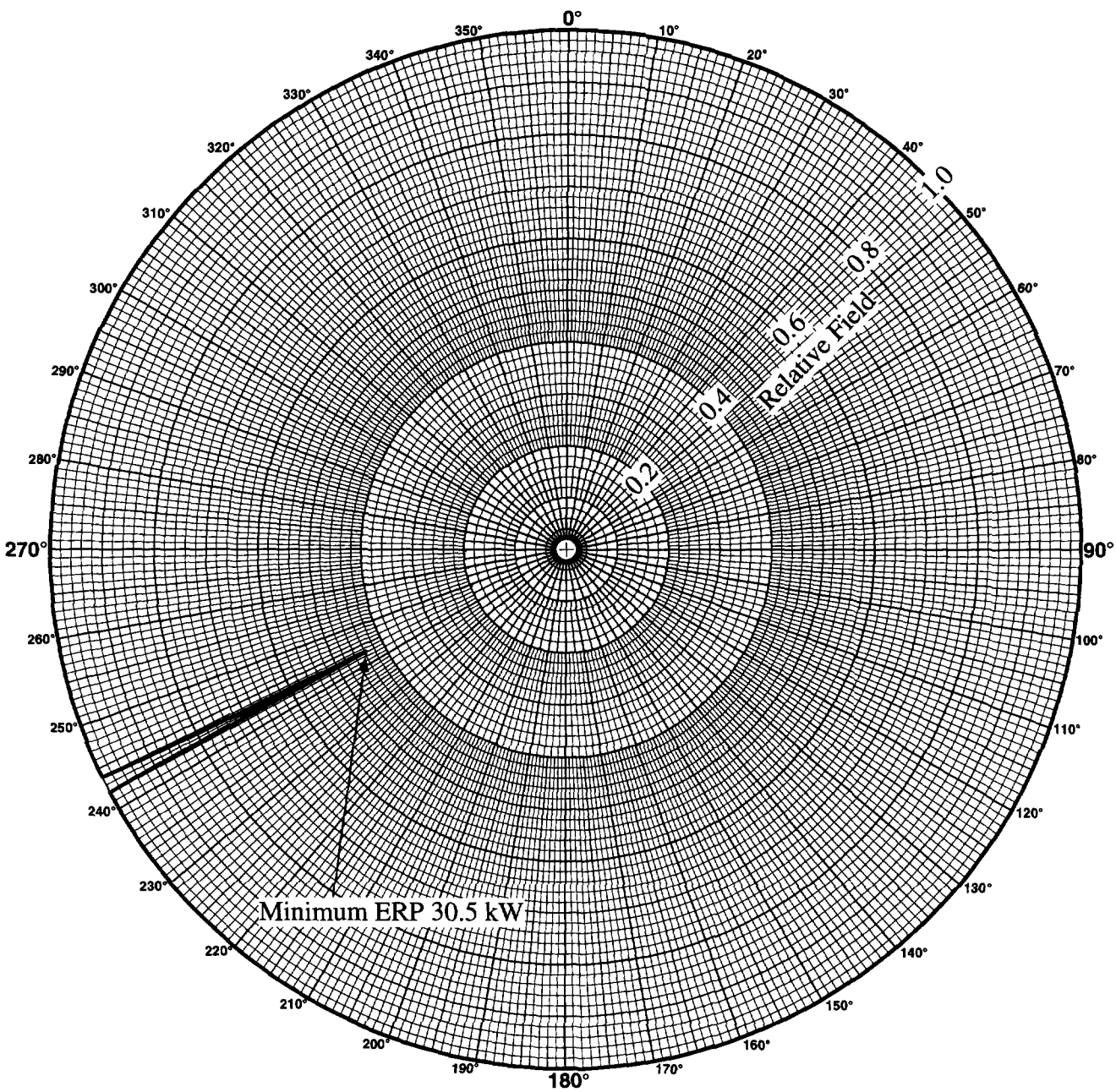
Note: Total Interference area 361 square kilometers
Total Interference population 18 persons

Total KPAX-TV interference-free coverage area 32,745 square kilometers
Total KPAX-TV interference-free coverage population 127,000 persons

Station KFBB-TV • Channel 5 • Great Falls, Montana

Relative Field Antenna Azimuth Pattern Required to Protect KPAX-TV Viewers from Interference from Proposed DTV Operation

(Channel 8, 160 kW peak, DA)



HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
SAN FRANCISCO

970616
Figure 3